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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/426,827
Filing Date: October 25, 1999
Appellant(s): MUDAR ET AL.

Rupert Hurley, Jr.
For Appellant

EXAMINER'S ANSWER

The examiner's answer dated 03/17/05, has been vacated by order of the Board of Patent Appeals and Interferences dated 10/05/05, in order for the appropriate headings under 37 CFR 41.37(c) to be applied. This revised examiner's answer is in response to the appeal brief filed 12/30/05 appealing from the Office action mailed 04/02/04.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Appeal No. 2003-0501: Ex parte Paul N. Georgelos and Paul D. Tatarka.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

Claims 1, 3-8, 10-24, 26 were under a final rejection as set forth in the final Office Action dated April 2, 2004. Claim 2 was cancelled. Claims 9, 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Hence only claims 1, 3-8, 10-24, 26 are the subject of Appellant's appeal.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,640,856	Ferguson	2-1987
4,755,403	Ferguson	7-1988
5,562,958	Walton	10-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 3-8, 11-17, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson et al. ('856) in view of Walton et al. (US 5,562,958).

Regarding claim 1, Ferguson ('856) teaches packaging films made into bags which are heat shrinkable and have improved shrink, tear, barrier and puncture resistance properties ('856, column 1, lines 5-15). The multilayer barrier film comprises

a layer comprising a blend of ethylene/alpha-olefin copolymer having a density of greater than 0.915 g/cm^3 (LLDPE as defined by Applicant's specification, abstract), and heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE as defined by Applicant's specification, abstract), specifically, a blend of linear low density polyethylene and a very low density polyethylene ('856, column 5, lines 25-30).

Ferguson ('856) teaches that the layers of heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) comprise at least 65 % of the thickness of the film (column 10, lines 30-40), which means that the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) blend can make up at least 70 percent of the total weight of the film of Ferguson ('856), being within the scope of the invention.

Although Ferguson ('856) fails to teach the amounts of VLDPE and LLDPE relative to each other in the blend, because Ferguson ('856) emphasizes the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in the examples (columns 7-9) and teaches the unexpected results of the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in terms of puncture resistance, oxygen barrier and heat shrink properties (column 8, lines 40-55, 60-70), it would have been obvious to one of ordinary skill in the art at the time the invention was made, that the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE), is necessarily present in the dominant amount in the VLDPE/LLDPE blend of Ferguson

('856), in order to provide the unexpected combination of improved puncture resistance, oxygen barrier and heat shrink properties. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a VLDPE/LLDPE blend comprising greater than 50 weight percent of the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE), in the first heat-shrinkable film of Ferguson ('856), which overlaps the claimed amount of at least about 21 percent based on the total weight of the blend, in order to take advantage of the improved combination of puncture resistance, oxygen barrier and heat shrink properties.

Ferguson ('856) is directed to heat-shrinkable, puncture-resistant film, for packaging poultry or meat ('856, column 1, lines 5-20) containing bones ('856, column 8, lines 40-50). Ferguson ('856) fails to teach a heat-shrinkable patch adhered to the heat-shrinkable bag.

Walton, who also teaches a heat-shrinkable film for packaging poultry or meat ('958, abstract), discloses that it was well known in the art to provide an extra layer of film, or patch, on portions of the bag that are at risk from puncturing (critical points of the bag in a patch-like fashion) ('958, column 3, lines 1-10). Furthermore, using the same film for the patch as for the bag provides matching shrinkage properties, as well as a thickened film composite in the critical areas where sharp bones are likely to puncture the bag.

Since both Walton and Ferguson are directed to heat-shrinkable puncture-resistant film for packaging food with bones, they are analogous art.

Therefore, because it is well known in the art to provide an extra layer of film, or patch, on portions of the bag that are at risk from puncturing, used for packaging meat or poultry with bones, as disclosed by Walton, and using the same film for the patch as for the bag provides matching shrinkage properties, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided an extra layer of film, in the form of a patch, to the bag of Ferguson ('856), in order to obtain matching shrinkage properties, as well as a thickened film composite in the critical areas where sharp bones are likely to puncture the bag.

Ferguson ('856) teaches that film layers are adhered together with an adhesive (column 9, lines 20-30). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have adhered the patch to the bag of Ferguson ('856) in view of Walton, with an adhesive, as taught by Ferguson ('856), in order to prevent delamination.

Regarding claims 3-8, 11, although Ferguson ('856) fails to teach the amounts of VLDPE and LLDPE relative to each other in the blend, because Ferguson ('856) emphasizes the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in the examples (columns 7-9) and teaches the unexpected results of the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in terms of puncture resistance, oxygen barrier and heat shrink properties (column 8, lines 40-55, 60-70), it would have been obvious to one of ordinary skill in the art at the time the invention was made, that the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915

g/cm^3 (VLDPE), is necessarily present in the dominant amount in the VLDPE/LLDPE blend of Ferguson ('856), in order to provide the unexpected combination of improved puncture resistance, oxygen barrier and heat shrink properties. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a blend of VLDPE/LLDPE comprising greater than 50 weight percent of the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE), in the first heat-shrinkable film, which overlaps the claimed amount of from about 30 to 95 weight percent, of from about 50 to 80 weight percent, and of from about 60 to 95 weight percent, in order to take advantage of the improved combination of puncture resistance, oxygen barrier and heat shrink properties.

Ferguson ('856) teaches a longitudinal free shrink of 38 percent, and a transverse free shrink of 47 percent at 190 °F (Example 2), providing a total free shrink of which overlaps the claimed total free shrink of at least 35 percent at 185 °F. Ferguson ('856) teaches a film thickness of 2.4 mil (column 8, line 39), which is within the claimed range of at least about 0.6 mil.

Regarding claim 6, Ferguson ('856) teaches that the layers of heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) comprise at least 65 % of the thickness of the film (column 10, lines 30-40), which means that the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) blend can make up the claimed range of at least 75 percent of the total weight of the film of Ferguson ('856), being within the scope of the invention.

Regarding claim 7, Ferguson ('856) teaches that the film has ball burst impact strengths of 13 to 28 cm.kg (1.3 to 2.8 Joules), directly related to the puncture resistance highly desirable for the packaging of irregularly (shaped) articles containing bones and subjected to abusive conditions (column 8, lines 25-30), which is evidence that the patch bag of Ferguson ('856) in view of Walton, wherein the bag is reinforced by patches of the same film, exhibits a Standard Rib Drop Test failure rate of less than 35 percent.

Regarding claim 8, Ferguson ('856) only teaches VLDPE/PVDC/EVA layers (column 8, lines 1-5), and blends of VLDPE, LLDPE and/or EVA (column 9, lines 50-51), all of which are not homogenous ethylene/alpha olefin copolymers as defined by Applicant's specification (pages 8-11). Therefore the patch of Ferguson ('856) in view of Walton is free of homogenous ethylene/alpha-olefin copolymer.

Regarding claim 12, Ferguson ('856) teaches that the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in terms of puncture resistance, oxygen barrier and heat shrink properties (column 8, lines 40-55, 60-70). Therefore, although Ferguson ('856) in view of Walton fails to teach that the patch on the patch bag is a monolayer film, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a single layer of the VLDPE/LLDPE blend of Ferguson ('856) as the patch on the patch bag of Ferguson ('856) in view of Walton, in order to provide the combined puncture resistance, oxygen barrier and heat shrink properties of the VLDPE/LLDPE blend, as basic additional protection when layers are minimized to cut costs.

Regarding claims 13-14, Ferguson ('856) teaches a bag, which comprises a biaxially-oriented film (oriented by trapped bubble technique) (column 7, lines 21-26), which is heat-shrinkable (column 1, lines 5-10). The film comprises an outside abuse layer (VLDPE), an inner O_2 barrier layer (PVDC), and an inside sealant layer (EVA) (Example 4) (column 9, lines 10-15). VLDPE is taught by Ferguson ('856) to be puncture-resistant (column 8, lines 40-50), and hence functions as an outside abuse layer. PVDC is taught by Ferguson ('856) to be a gas barrier layer (abstract) and is a commonly used O_2 barrier layer. EVA is taught by Ferguson ('856) to be an adhesive layer (column 9, lines 25-35) and is a commonly used sealant layer. As discussed above, the patch of Ferguson ('856) in view of Walton, is made of the same film, is thus also heat-shrinkable, and can comprise a second heat-shrinkable film adhered to an outside surface of the bag, on a second critical area where a sharp bone is likely to puncture the bag.

Regarding claim 15, Ferguson ('856) teaches that the film has ball burst impact strengths of 13 to 28 cm.kg (1.3 to 2.8 Joules), directly related to the puncture resistance highly desirable for the packaging of irregularly (shaped) articles containing bones and subjected to abusive conditions (column 8, lines 25-30), which is evidence that the patch bag of Ferguson ('856) in view of Walton, wherein the bag is reinforced by patches of the same film, exhibits an indexed energy to break of at least 0.6 Joules per mil.

Regarding claim 16, Ferguson ('856) teaches a multilayer film (abstract). As discussed above, the patch of Ferguson ('856) in view of Walton, is made of the same film, is thus also multilayer.

Regarding claim 17, Ferguson ('856) teaches a VLDPE/EVA/PVDC/VLDPE film structure (column 8, lines 1-5), wherein the blend of VLDPE/LLDPE is used (column 9, lines 50-51). As discussed above, the patch of Ferguson ('856) in view of Walton, is made of the same film, is thus also has a film structure of VLDPE/EVA/PVDC/VLDPE. The VLDPE blend comprises the outer layers. EVA is short for ethylene vinyl acetate, which is a species of an ethylene/unsaturated ester copolymer.

Regarding claim 26, the patch bag of Ferguson ('856) in view Walton has been discussed above. Furthermore, Ferguson ('856) teaches VLDPE which is a heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm3 and a composition distribution breadth index less than 55 percent (as defined by Applicant's specification, abstract).

Although, Ferguson ('856) fails to teach the amounts of VLDPE and LLDPE relative to each other in the blend, because Ferguson ('856) emphasizes the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in the examples (columns 7-9) and teaches the unexpected results of the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in terms of puncture resistance, oxygen barrier and heat shrink properties (column 8, lines 40-55, 60-70), it would have been obvious to one of ordinary skill in the art at the time the invention was made, that the heterogeneous

ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE), is present in the dominant amount in the VLDPE/LLDPE blend of Ferguson ('856), in order to provide the unexpected combination of improved puncture resistance, oxygen barrier and heat shrink properties. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a VLDPE/LLDPE blend comprising greater than 50 weight percent of the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE), in the first heat-shrinkable film of Ferguson ('856), which overlaps the claimed amount of at least about 21 percent based on the total weight of the blend, in order to take advantage of the improved combination of puncture resistance, oxygen barrier and heat shrink properties. The corresponding amount of ethylene/alpha-olefin copolymer having a density of greater than 0.915 g/cm^3 (LLDPE) makes up less than 50 weight percent of the VLDPE/LLDPE blend, and hence overlaps the claimed amount of at least about 5 percent based on a total eight of the blend.

2. Claims 10, 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson ('856) in view of Walton as applied to claims 1, 3-8, 11, 13-17, 26 above, and further in view of Ferguson ('403).

Ferguson ('856) in view of Walton as discussed above.

Regarding claim 10, Ferguson ('856) in view of Walton fails to teach that the VLDPE/LLDPE blend comprises pigment.

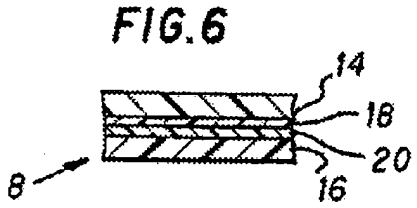
Ferguson ('403) teaches a biaxially heat shrinkable bag, and a biaxially heat shrinkable patch which shrinks with the bag ('403, abstract). Ferguson ('403)

demonstrates that adding pigment to the outer layers is commonly done in the art ('403, column 3, lines 45-50).

Therefore, as evidenced by Ferguson ('403), it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have added pigment to the outer layers which comprise the VLDPE/LLDPE blend in the patch bag of Ferguson ('856) in view of Walton, in order to obtain a visibly colored patch bag.

Regarding claims 18-22, Ferguson ('856) fails to teach the symmetrical embodiment wherein the inner layer of EVA adheres to itself, thus forming a symmetrical multilayer film which comprises an inner layer welded to itself, and two outer layers of the blend of VLDPE/LLDPE.

Ferguson ('403) teaches a biaxially heat shrinkable bag, and a biaxially heat shrinkable patch which shrinks with the bag, made from a multilayer film which comprises a layer of ethylene vinyl acetate copolymer (EVA) ('403, abstract). Below is a symmetrical cross-section (claim 22) of a patch of Ferguson ('403), made by the well-known procedure of collapsing the bubble and flattening the tube wherein the inner EVA surface adheres to, and hence welding to itself (column 4, lines 55-65):



Ferguson ('403) teaches that the inner layers 18 and 20 are formed from EVA having 28 % vinyl acetate (column 4, lines 20-25), which is within the vinyl acetate

content range of from about 3 to 50 weight percent (claim 20). The amount of ethylene/vinyl acetate copolymer (EVA) is essentially 100 percent by weight of the inner layer since the inner layer is formed from it, meeting the claimed limitation of an amount of ethylene/vinyl acetate copolymer of at least 50 weight percent (claim 19).

The symmetrical patch formed has an outer layer facing the bone, and another outer layer facing the outside elements, providing for double-puncture protection.

Therefore, because Ferguson ('403) teaches that a patch for a patch bag is made by the well-known process of collapsing the bubble and flattening the tube wherein the inner EVA surface welds to itself, thus forming a patch with double-puncture protection as discussed above, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have made the patch film of Ferguson ('856) in view of Walton, by a self-welding bubble process, in order to obtain a symmetrical patch film with two outer layers containing the puncture-resistant VLDPE/LLDPE blend (claim 18).

Ferguson ('403) teaches that the patch is adhered with an adhesive to the bag (column 5, lines 1-10), and is directed to the reduction of the puncturing by sharp bones, of meat packaging (column 1, lines 5-15).

Since Ferguson ('403) and Ferguson ('856) are both directed to puncture-resistant packaging of meat with bones, they are analogous art. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used the well-known self-welding bubble process, as taught by Ferguson ('403),

to form a patch out of the bag film of Ferguson ('856), in order to obtain a symmetrical patch film with two outer layers containing the puncture-resistant VLDPE/LLDPE blend.

Regarding claim 23, Ferguson ('856) teaches that the inner layer of EVA is essentially 100 percent in Example 5 (column 9, lines 10-15), which is within the claimed range of from about 50 to 100 percent, and that the two outer layers contain the VLDPE blend (column 9, lines 10-15, 50-51).

Regarding claim 24, Ferguson ('856) in view of Walton, fails to teach the amounts of VLDPE and LLDPE relative to each other in the blend. However, because Ferguson ('856) emphasizes the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in the examples (columns 7-9) and teaches the unexpected results of the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE) in terms of puncture resistance, oxygen barrier and heat shrink properties (column 8, lines 40-55, 60-70), it would have been obvious to one of ordinary skill in the art at the time the invention was made, that the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE), is present in the dominant amount in the VLDPE/LLDPE blend of Ferguson ('856), in order to provide the unexpected combination of improved puncture resistance, oxygen barrier and heat shrink properties.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a VLDPE/LLDPE blend comprising greater than 50 weight percent of the heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cm^3 (VLDPE), in the first heat-shrinkable film, which

overlaps the claimed amount of from about 70 to 80 weight percent based on the total weight of the blend, in order to take advantage of the improved combination of puncture resistance, oxygen barrier and heat shrink properties. The corresponding amount of ethylene/alpha-olefin copolymer having a density of greater than 0.915 g/cm^3 (LLDPE) makes up less than 50 weight percent of the VLDPE/LLDPE blend, and hence overlaps the claimed amount of from about 20 to 30 percent based on a total eight of the blend.

(10) Response to Argument

Rejection of claims 1, 3-8, 11-17, 26 under 35 U.S.C. 103(a) over Ferguson et al. ('856) in view of Walton et al. (US 5,562,958).

i. Appellant argues that when considered in its entirety, Walton actually teaches away from adhering a heat shrinkable patch to a heat shrinkable bag, in that Walton teaches that to make the heat-shrinkable bag from a heat shrinkable-film containing a substantially linear ethylene/alpha interpolymer having uniform branching distribution, is to make the bag is more impact resistant and therefore not require the presence of a patch. Furthermore, Appellant argues that Walton refer to the use of patches on bags as an "expensive practice" which film producers have "resorted to" in order to toughen the package in combination with the use of thicker films and bags which Walton states are "artificial" ways of enhancing puncture, abuse and implosion resistance of film, implying that such expensive practices as patches and thicker films are artificial and therefore not necessary if the improved polymer of Walton is used. Appellant then concludes that as a result, one of ordinary skill in the art would take from

Walton that the solution to the bone puncture problem is to be found in the use of the improved polymer of Walton to make a heat shrinkable bag which does not have a patch adhered thereto, rather than attacking the problem "artificially" by adhering a patch to a bag.

Appellant is respectfully reminded that Walton is the secondary reference which discloses that it was well known in the art to provide an extra layer of film, or patch, on the portions of the bag that are at risk for puncturing. Appellant notes that Walton was filed over 8 years after the filing date of Ferguson ('856). Therefore Walton is evidence that providing an extra layer of film, or patch, on the bag of Ferguson ('856) was well known in the art at the time of Walton, and hence of Appellant's invention. Appellant is also respectfully reminded that although Walton calls the practice of providing an extra layer of film, or patch on the bag, "expensive" and "artificial", Walton teaches a film structure containing at least two layers containing the improved polymer of Walton (column 15, lines 29-35), and therefore does not preclude the use of an extra layer of film, or patch on the bag.

ii. Appellant argues that it is important to note that Walton only mentions patches on bags in a discussion of the prior art, not the invention of Walton.

Appellant is again respectfully reminded that Walton is the secondary reference which discloses that it was well known in the art to provide an extra layer of film, or patch, on the portions of the bag of Ferguson ('856) that are at risk for puncturing. Therefore the citation is appropriately placed in the discussion of the prior art. As Appellant correctly notes, Walton was filed over 8 years after the filing date of Ferguson

('856). Ferguson ('856) is the primary reference which teaches the claimed composition of the film.

iii. Appellant argues that even if one of ordinary skill in the art were to read the citation of Walton and decide to place a patch on a bag, the patch bag would be made from the polymer of Walton which provides improved toughness and shrink, not the film of Ferguson ('856).

Appellant is respectfully reminded that Walton provides evidence that it was well known in the art to provide an extra layer of film, or patch, on the portions of the bag of Ferguson ('856) that are at risk for puncturing. Ferguson ('856) teaches that the VLDPE made by Union Carbide Corporation (column 6, lines 15-20), provides significant and unexpected properties in terms of puncture resistance (column 8, lines 40-47), barrier (column 8, lines 48-60), rupture and tearing resistance (column 8, lines 60-65) and low temperature heat-shrink (column 8, lines 65-70). Ferguson ('856) is directed to heat-shrinkable, puncture-resistant film, for packaging poultry or meat (column 1, lines 5-20) containing bones (column 8, lines 40-50). Therefore in reading Ferguson ('856), one of ordinary skill in the art would have been motivated to use the blend of Ferguson ('856) to obtain a film having improved shrink and toughness, specifically for packaging poultry or meat containing protruding bones, and to provide an extra layer of film, or patch, on the portions of the bag of Ferguson ('856) that are at risk for puncturing, as is well known in the art, as disclosed by Walton.

iv. Appellant argues that Walton states that the substantially linear ethylene/alpha-olefin copolymer is capable of providing a shrink film with improved low

temperature shrink performance over convention Ziegler catalyzed copolymers, and that these Ziegler catalyzed copolymers include the LLDPE and VLDPE of Ferguson ('856), and that the substantially linear ethylene/alpha-olefin copolymer also provides shrink film with improved toughness. Appellant concludes that in reading Walton, one of ordinary skill in the art would be taught to use the polymer of Walton to obtain a film having improved shrink and toughness, rather than a film containing the Ziegler catalyzed LLDPE and VLDPE of Ferguson ('856).

Appellant is respectfully apprised that Walton teaches that the conventional Ziegler catalyzed copolymers sold by Mitsui Petrochemical, under the tradename "Tafmer™", are not "generally recognized or marketed as having excellent abuse resistance or shrink characteristics" (column 5, lines 55-65). Ferguson ('856), on the other hand, teaches that the VLDPE made by Union Carbide Corporation (column 6, lines 15-20), provides significant and unexpected properties in terms of puncture resistance (column 8, lines 40-47), barrier (column 8, lines 48-60), rupture and tearing resistance (column 8, lines 60-65) and low temperature heat-shrink (column 8, lines 65-70). Ferguson ('856) is directed to heat-shrinkable, puncture-resistant film, for packaging poultry or meat (column 1, lines 5-20) containing bones (column 8, lines 40-50). Therefore in reading Ferguson ('856), one of ordinary skill in the art would have been motivated to use the blend of Ferguson ('856) to obtain a film having improved shrink and toughness, specifically for packaging poultry or meat containing protruding bones, and to provide an extra layer of film, or patch, on the portions of the bag of

Ferguson ('856) that are at risk for puncturing, as is well known in the art, as disclosed by Walton.

v. Appellant argues that relying upon only a portion of Walton, without considering Walton as a whole, is impermissible as it is required under the law.

Appellant is respectfully apprised that the statement above is incorrect. Under the law, the use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. See MPEP 2123. The selection of a known plastic composition to make a container of a type made of plastics prior to the invention is held to be obvious. See MPEP 2144.07.

Ferguson ('856) is the primary reference which teaches the multilayer film with the claimed composition. Walton is being relied on as evidence that it was well known in the art to provide a thicker film, or an extra layer of film, or patch, on the portions of the film bag that are at risk from puncturing. While Walton teaches that it is "expensive" and "artificial", as pointed out by Appellant, Walton also teaches a film structure containing at least two layers containing the improved polymer of Walton (column 15, lines 29-35), and therefore does not preclude the use of a thicker film, or an extra layer of film, or patch on the film bag. Therefore, Walton, when considered as a whole, fails to preclude the use of an extra layer of film, or patch on the film bag, and actually demonstrates its desirability by example. Instead of an extra layer of film covering the

entire surface of the film bag, a patch of extra film in strategic locations on the surface of the film bag is more cost-effective.

vi. Appellant argues that Walton does not provide any teaching or suggestion to make a patch out of the same material as the bag, and that the Office does not cite any location in Walton which teaches or suggests making a patch out of the same material as the bag.

Appellant is respectfully apprised that the phrase in Walton of "using an extra layer of film at critical contact points of the bag in a patch-like fashion " (column 3, lines 5-10) means that the patch is certainly made out of the same material as the film bag, based on the adjective "extra" to describe the layer of film. If Walton had meant a patch made from a different material, the adjective "extra" would have been absent from the phrase.

vii. Appellant argues that Ferguson ('403) clearly teaches patch films which differ from bag film.

Appellant is respectfully apprised that Ferguson ('403) is not present in the rejection of claims 1, 3-8, 11-17, 26. Appellant is also respectfully apprised that there is no clear teaching by Ferguson ('403) that the patch films are different from the bag film. Ferguson ('403) actually teaches that the patch shrinks with the bag (abstract), implying that the patch film can be the same as the bag film, so as to have the same shrinkage properties.

viii. Appellant argues that Ferguson ('856) only mentions VLDPE when describing the shrinking and orientability of the packaging film in hot water baths, and fails to mention LLDPE or a blend of VLDPE and LLDPE.

Appellant is respectfully apprised that Ferguson ('856), in stating that "packages made from film according to this invention can be shrunk in hot water baths" (column 6, lines 55-60), that "the invention (which) also includes a thermoplastic, multilayer barrier film comprising a barrier layer, a layer of VLDPE, and a layer comprising a blend of VLDPE and LLDPE" (column 5, lines 25-30), and that "blends of VLDPE, LLDPE and/or EVA may be used to achieve desired properties" (column 9, lines 45-55), implies that the packages made from films incorporating VLDPE, inclusive of blends of VLDPE, LLDPE and/or EVA, can be shrunk in hot water baths, and hence oriented, with the implicit understanding that VLDPE is the dominant component of the blend, in order to provide the hot water shrinkage property and hence orientation property.

ix. Appellant argues that the teaching of greater ball burst strength and enhanced resistance to film puncture, reduced oxygen transmission and reduced water vapor transmission are all attributed to the presence of VLDPE in the film, without the mention of LLDPE.

Appellant is respectfully apprised that Ferguson ('856), in stating that "the invention (which) also includes a thermoplastic, multilayer barrier film comprising a barrier layer, a layer of VLDPE, and a layer comprising a blend of VLDPE and LLDPE" (column 5, lines 25-30), and that "blends of VLDPE, LLDPE and/or EVA may be used to achieve desired properties" (column 9, lines 45-55), implies that the packages made

from films incorporating VLDPE, inclusive of blends of VLDPE, LLDPE and/or EVA, has the unexpected properties of the VLDPE as long as the VLDPE is the dominant component in the blend, with LLDPE and/or EVA added in a minor amount to achieve desired properties provided by modification of the VLDPE film layer with the LLDPE and/or EVA.

x. Appellant argues that Ferguson ('856), taken as a whole, does not teach or suggest that a blend of VLDPE and LLDPE will provide any enhanced properties that VLDPE will not provide by itself.

Appellant is respectfully apprised that Ferguson ('856) teaches that in certain applications, blends of VLDPE, LLDPE and/or EVA may be used to achieve desired properties (column 9, lines 45-55). Therefore Ferguson ('856) does not exclusively teach the use of VLDPE by itself, and actually teaches that the blends of VLDPE, LLDPE and/or EVA achieve properties which are desirable, thus providing the motivation for one of ordinary skill in the art to try the blends.

xi. Appellant argues that because Ferguson ('856) was written before the public disclosure of metallocene catalyzed polymers such as those of Walton, it is clear that Ferguson ('856) makes no difference in shrink properties between Ziegler catalyzed LLDPE and VLDPE versus metallocene catalyzed polymers, and that rather, it is Walton which compares shrink properties of the Ziegler catalyzed ULDPE (=VLDPE) film and LLDPE films versus the metallocene catalyzed SLEP film, with the SLEP films exhibiting higher shrink and greater toughness and puncture resistance, as well as greater tensile strength and toughness.

Appellant is respectfully apprised that Walton teaches that the conventional Ziegler catalyzed copolymers sold by Mitsui Petrochemical, under the tradename "Tafmer™", are not "generally recognized or marketed as having excellent abuse resistance or shrink characteristics" (column 5, lines 55-65). Ferguson ('856), on the other hand, teaches that the VLDPE made by Union Carbide Corporation (column 6, lines 15-20), provides significant and unexpected properties in terms of puncture resistance (column 8, lines 40-47), barrier (column 8, lines 48-60), rupture and tearing resistance (column 8, lines 60-65) and low temperature heat-shrink (column 8, lines 65-70). Hence Walton did not use the same VLDPE in the comparison. Thus the conclusions made by Walton are not commensurate in scope and are inapplicable to the VLDPE taught by Ferguson ('856). Therefore Appellant is incorrect in extending the comparative conclusions of Walton to the VLDPE taught by Ferguson ('856), and hence it is not clear that one of ordinary skill in the art would have been led to use the SLEP films of Walton over the VLDPE based film of Ferguson ('856).

2. Rejection of claims 10, 18-24 under 35 U.S.C. 103(a) over Ferguson et al. ('856) in view of Walton et al. as applied to claims 1, 3-8, 11-17, 26 above, and further in view of Ferguson et al. ('403).

i. Appellant refers to the arguments discussed above in response to the rejection of Ferguson ('856) in view of Walton.

Appellant is respectfully referred to the discussion above.

ii. Appellant points out that because Ferguson ('403) is directed particularly to a patch bag, that one of skill in the art would be led to use the LLDPE of Ferguson ('403) in the patch film, not the blend recited in Appellant's claim 1, (and hence not the blend taught by Ferguson ('856)).

Appellant is respectfully apprised that Ferguson ('403) is used as a secondary reference to evidence that the coloring the outer layers of the film with a pigment, the use of the Brax process to form the symmetrical film structure with the puncture resistant outer layers utilizing the vinyl acetate content of the core EVA to provide self-welding, and the amount of EVA, are all notoriously well-known common knowledge in the art. The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. See MPEP 2123. The selection of a known plastic composition to make a container of a type made of plastics prior to the invention is held to be obvious. See MPEP 2144.07.

(11) Related Proceeding(s) Appendix

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Sow-Fun Hon.

Sow-Fun Hon

Examiner

Art Unit 1772

October 25, 2005

/Harold Pyon/
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

Conferees:

Rena Dye — RD

Harold Pyon — HP

Attachment to Revised Examiner's Answer

Application Number: 09/426,827

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL N. GEORGELOS
and
PAUL D. TATARKA

Appeal No. 2003-0501
Application No. 09/110,455

ON BRIEF

Before KIMLIN, WALTZ and MOORE, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-18, 20 and 21. The examiner has withdrawn the final rejection of claims 10, 12, 20 and 21.[1] Accordingly, the claims remaining on

[1] See page 5 of Answer, fourth paragraph.

appeal are claims 1-7, 9, 11 and 13-18.[2] Claim 1 is illustrative:

1. A heat-shrinkable patch-bag combination suitable for use in packaging bone-in primal and subprimal cuts of meat comprising:

a) a bag formed of an oriented, multilayer heat shrinkable film from 2.25 to 3.5 mils (0.057 to 0.089 mm) thick having an inner heat sealable layer that defines an interior surface of said bag and an outer abuse layer that defines an exterior surface of said bag;

b) a patch formed of an oriented, monolayer heat shrinkable film from 2.5 to 3.5 mils (0.064 to 0.089 mm) thick having an exterior surface adhered to said bag exterior surface;

c) said bag film heat seal layer and said patch film both being formed of a polymer blend comprising

i) a first polymer which is a copolymer of ethylene and at least one C_3 - C_{10} alpha-olefin, said first polymer having a density of 0.900 g/cc or less, a melting point of about 55°C to 90°C, a melt index not greater than 1.5 dg/min. and an $\bar{M}_w/\bar{M}_n$ of less than 3,

ii) a second polymer which is a copolymer of ethylene and at least C_3 - C_{10} alpha-olefin, said second polymer having a density of from about 0.900 g/cc to about 0.915 g/cc, a melting point of from 90°C to 110°C, a melt index of 2 dg/min. or less and an $\bar{M}_w/\bar{M}_n$ of less than 3.5 and

iii) a third polymer which is a copolymer of ethylene and at least C_3 - C_{10} alpha-olefin, said third polymer having a density of from about 0.900 g/cc to about 0.915 g/cc, a melting point of from 115°C to 130°C, a melt index of 2 dg/min. or less and an $\bar{M}_w/\bar{M}_n$ of 2 to 12; and

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[2] The examiner's statement of the rejection in the Answer does not include a rejection of claim 8. Accordingly, we consider that the final rejection of claim 8 has also been withdrawn by the examiner.

d) said multilayer oriented bag film and said monolayer oriented patch film each having a shrink of at least 20% in at least one direction at 90° [sic, 90°C].

The examiner relies upon the following references as evidence of obviousness:

Walton et al. (Walton)	5,562,958	Oct. 08, 1996
Wilhoit et al. (Wilhoit)	5,928,740	Jul. 27, 1999

Appellants' claimed invention is directed to a heat-shrinkable patch-bag combination that is used in packaging bone-in meat. The bag comprises an inner heat sealable layer and an outer abuse layer, as well as a patch that is adhered to the exterior surface of the bag. Both the inner heat sealable layer and the patch are formed from the same polymer blend comprising first, second and third copolymers of ethylene and at least C_3-C_{10} alpha-olefin.

Appealed claims 1-7, 9, 11 and 13-18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wilhoit in view of Walton. These claims also stand rejected under obviousness-type double patenting over Wilhoit in view of Walton.

Appellants submit at page 4 of the Brief that the following groups of claims stand or fall together: (I) claims 1-7, 9 and 13-15; (II) claims 8, 11 and 18; and (III) claims 16 and 17.

We have thoroughly reviewed each of appellants' arguments for patentability. However, we are of the opinion that the

claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 (and under the judicially created doctrine of obviousness-type double patenting) in view of the applied prior art. Accordingly, we will sustain the examiner's rejections for essentially those reasons expressed in the Answer.

There is no dispute that Wilhoit, like appellants, discloses a heat-shrinkable bag formed of an oriented, multilayer heat shrinkable film that has an inner heat sealable layer comprising the same blend of first, second and third polymers presently claimed. We note appellants' acknowledgment that "[a]ppellants admit that the teachings of the Wilhoit, et al. '740 patent discloses the heat shrinkable bag component of the presently claimed invention" (page 6 of Brief, last sentence). As appreciated by the examiner, Wilhoit "fails to teach a heat-shrinkable patch adhered to the exterior surface of the bag" (page 4 of Answer, last paragraph). However, Walton, who also discloses a heat-shrinkable film for packaging meat, evidences that it was well known in the art to provide an extra layer of film, or patch, on the portions of the bag that are at risk for puncturing. In view of the collective teachings of Wilhoit and Walton, the examiner offers the following rationale:

> Since it is well known in the art to use patches on bags for use with meat cuts to prevent rupturing as taught by Walton et al., it would have been obvious to one of ordinary skill in the art to have provided additional material, or a patch, to the bag of Wilhoit et al., to give additional reinforcement. Furthermore, it would have been obvious to one having ordinary skill in the art to have used the bag material taught by Wilhoit et al. for making the patch. Using the identical material would have provided the same shrinkage properties of the bag as well as providing a thickened film in the critical areas where sharp bones are likely to puncture the bag [page 5 of Answer, second paragraph].

We find no error in the examiner's reasoning, particularly in light of the acknowledgment in appellants' specification that "[a] common solution to the problem is to improve the puncture and abrasion resistance of the bag film by adhering a patch to the outer surface of the heat-shrinkable bag" (page 1, last paragraph), and "[t]he shrink properties of the patch in each case are matched to the shrink properties of the bag to reduce the likelihood of delamination of the patch from the bag during heat shrinking" (page 2, first paragraph). Accordingly, appellants' admitted prior art provides factual support for the examiner's conclusion that it would have been obvious for one of ordinary skill in the art to use the identical material for both the bag and the patch. We are not persuaded by appellants' argument that the materials disclosed by Walton to serve as the patch are not the claimed blend of copolymers.

We are also not persuaded that the specification data cited by appellants establishes unexpected results as evidence of nonobviousness which outweighs the evidence of obviousness represented by the prior art. Although the specification data demonstrates improved puncture resistance for patch materials within the scope of the appealed claims compared to other materials, we concur with the examiner that it is not evident that the specification results would be considered truly unexpected by one of ordinary skill in the art. In re Merck & Co., 800 F.2d 1091, 1099, 231 USPQ 375, 381 (Fed. Cir. 1986). As explained by the examiner, Wilhoit "does teach that the films made from the blends have improved heat sealing as well as puncture resistance properties, and that they are used in packaging meat and poultry," and, therefore, "[o]ne of ordinary skill in the art would thus not only think of using the blends of Wilhoit et al. in a heat seal layer but also in a layer which specifically functions as a puncture resistant layer" (page 6 of Answer, third paragraph). Just as unexpected results are evidence of nonobviousness, expected results are evidence of obviousness. In re Skoner, 517 F.2d 947, 950, 186 USPQ 80, 82 (CCPA 1975).

In conclusion, based on the foregoing and the reasons well-stated by the examiner, the examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

EDWARD C. KIMLIN
Administrative Patent Judge

THOMAS A. WALTZ
Administrative Patent Judge

JAMES T. MOORE
Administrative Patent Judge

BOARD OF PATENT APPEALS AND INTERFERENCES

ECK:clm

Appeal No. 2003-0501
Application No. 09/110,455

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